

REMARKS

Applicants respectfully request reconsideration of this application, as amended. Claims 1-43 have been previously cancelled without prejudice or disclaimer. Claims 44 and 55 have been amended to clarify certain claimed aspects. No substantive amendments to the claims have been made and no additional search is required to determine the patentability of the pending claims. Claims 44-60 are currently pending.

Applicants would first like to thank the Examiner for his indication that the previously presented rejections under 35 U.S.C. § 112, second paragraph, have been reconsidered and withdrawn.

Claims 44-60 have been rejected under 35 U.S.C. § 102 as being anticipated by E.P. Patent No. 1,091,307 to Flockhart et al. (hereinafter “the ‘307 reference”). In order for a rejection under 35 U.S.C. § 102 to be proper, each and every claimed feature must be found either expressly or inherently in the cited prior art reference (MPEP § 2132). Applicants respectfully submit that the ‘307 reference fails to teach every claimed feature and, therefore, respectfully request reconsideration and withdrawal of the rejections of the claims.

Embodiments of the claimed invention are directed generally toward scheduling work items in a resource allocation system. Some embodiments of the present invention provide mechanisms that can be employed to assess the status of work items in a queue relative to their service time goals and to predict a future state of a work item queue. A required queue position (RQP) for various work items in a queue can be used to show and determine a state and future state of a given queue. The RQP is usually a range of queue positions for work items in a work item queue. The RQP of a work item can be determined based on a remaining time for the work item to be completed and a weighted advance time for the work queue. Typically, work items that are closer to the front of the queue have smaller RQP ranges than do work items that are farther away from the front of the queue. Thus, a greater focus may be placed on work items having service time goals which expire in a relatively short amount of time. Additionally, potential queue problems can be detected for work items that still have a relatively long period of time before they must be completed. Therefore, the entire queue can be assigned a state (e.g., “behind target”, “on target”, “immediate risk”, and/or “future risk”) based on the analysis of the queue and the RQPs for each respective work item in the queue. If the queue state is determined

to be anything other than “on target” additional resources can be assigned to the surplus of work items. On the other hand, if the queue state is determined to be “on target” or ahead of schedule, then potentially idle resources can be assigned to other tasks. By predicting a future state of a queue, an even workload for resources can be achieved, thus increasing contact center efficiency.

The ‘307 reference is directed toward a method of optimizing workflow scheduling driven by target completion time. The ‘307 reference describes work items in an inbox queue, where each work item has an in-queue rating that represents the number of queue positions that the work item can be retarded or needs to be advanced to meet its target task start time, target task completion time, and/or target workflow completion time. (‘307 reference Abstract.) The in-queue rating of a work item is computed as either the difference between target task start time and estimated wait time or the difference between target task completion time and the sum of the estimated wait time in the queue. The work item may be repositioned within the same queue in an attempt to optimize the defined business objectives for that queue.

The ‘307 reference does not teach, suggest, or describe predicting a future state of a queue and in response to predicting the future state of that queue, assigning and/or re-assigning work items to/from different queues. More specifically, each of the pending independent claims provide, *inter alia*, ***when a surplus of work items is predicted***, additionally forwarding work items to workstations of a second set of resources. The ‘307 reference does not provide any teaching of predicting a future state of a queue. Therefore, the rejections of the independent claims should be reconsidered and withdrawn.

In addition to being dependent from an allowable independent claim, the dependent claims provide additional reasons for allowance.

As one example, the ‘307 reference does not teach, suggest, or describe RQPs whose granularity increase as the respective position within the queue gets closer to the head of the queue. *See e.g.*, claim 50.

As another example, the ‘307 reference does not teach, suggest, or describe that if the state indicating a surplus of work items being predicted is a future risk state, then predicting when the surplus of work items will occur, and additionally forwarding work items in the work queue to workstations of the second set of resources in dependence on said prediction. *See e.g.*, claims 46, 51-53.

As yet another example, the '307 reference does not teach, suggest, or describe creating and/or using an array of counters, each element in said array of counters corresponding to a predefined range of RQP's to determine a state of the queue. *See e.g.*, claim 48.

As still another example, the '307 reference does not teach, suggest, or describe creating and/or using an index variable and/or sum variable as claimed. *See e.g.*, claim 51.

As still another example, the '307 reference does not teach, suggest, or describe determining a number of work items which are likely not to meet their service time goals and a time at which the service time goal for said number of work items will expire. *See e.g.*, claim 56.

Based on the foregoing, Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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